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Most of the developments in modern medicine have been the result of careful scientific experiments in laboratories and in hospitals, experiments directed by clear thinking and sound reasoning. Yet for the most part medical training tends to neglect the scientific attitude, and the subject is presented as a mass of poorly related facts a certain percentage of which have to be remembered by the student for a limited period, until he is qualified. When he then goes out into the world much of what he has learnt is forgotten, for it is no longer useful. In general practice he is confronted with a new situation which requires clear thought and sound principles. From the very nature of his subject it is obvious that the student will have learned a great deal of dissociated fact. The majority of the signs and symptoms of disease are far beyond our powers of explanation, and treatment is often empirical. In spite of that it seems a pity that he is forced to assimilate unnecessary and unrelated facts, so much of which he will certainly forget, and that he is thereby unable to acquire a more scientific view. Is it not possible for him to be taught the fundamentals, given some understanding of science generally, and of scientific method? He should be shown how to think clearly for himself. Following the history of scientific thought would surely help to develop this. For us to be able to cope with modern rapid advances in science we must be able to grasp the significance of new facts and relate them to what we already know.

Oddly enough, although most of the developments of our age have come from endless scientific experiments, yet many of the new discoveries have occurred by accident or by intuition. There is the story of the discovery of Insulin by Banting. Unfortunately we have been unable to verify this story, but it is an excellent example. Banting, while still a G.P., read some articles explaining that extracts of the pancreas had the power of lowering the blood sugar when injected into a normal animal. It had been impossible to isolate the enzyme. He was convinced that in the results of these experiments lay the secret of Diabetes. Was this conviction, which led him on to his researches, chance or intuition? It would be interesting if we could find out from other great discoverers if the first germ of their work was similarly revealed. It may well have been luck with Banting's first conviction, but the tenacity with which he held it seems to indicate more. It is said that to a certain extent Marie Curie's discoveries were intuitive. Her first awareness of the importance of substances which had been found to emit rays led her to carry out research into them. The possibility of a new element—radium—with its unique properties, seems to have been intuitive. Her endless research carried out in the face of enormous difficulties, and in such poverty, indicate an amazing conviction in their importance. The tenacity with which intuitive ideas are held reminds one of the delusions of the insane. Intuition has been defined as conviction arising from unconsciously observed facts. Presumably facts which have passed into the unconscious because the conscious mind could relate them to nothing already known. This may be the reason why intuitive flashes usually bring forth something entirely new. Whether this explanation is true or not it is almost impossible to tell. Almost as impossible as it is to collect information about intuitional incidents themselves.

New conceptions in nearly all branches of thought always provoke enormous opposition. They seem to act as a most powerful antigen to the mind, the reaction to which is always violent. Only by rational thinking can we obtain insight into the implication of new ideas and appreciate their value. Of the Art of medicine and of chance we have no control; but we can develop clear thought and sound reasoning. If some of the ill-digested mass of medical facts could be left aside and in exchange the more logical scientific approach could be developed we should be better off. At present the medical student's mind is developed little by his training. He is so occupied with his gigantic feat of memory that he has neither the time nor the energy to grasp other branches of thought and learn to think clearly for himself.

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THE 'ÆTIOLOGICAL' APPROACH TO THERAPEUTICS

A FOOTNOTE TO WINNICOTT

By DOUGLAS HUBBLE

It seems to me profitable to analyse Winnicott's article in the February issue of the JOURNAL and to attempt to reduce his protests to first principles.

Halliday[1] has illuminated our approach to ætiology by proposing a series of simple but fundamental questions such as, "Why did the patient take ill *when* he did?" and "Why did he take ill *how* he did?" "What kind of a person is this?" and "What has he met?" Halliday uses these questions to illustrate and probe the biological ætiology of disease. It will be readily seen that clinical medicine, including its latest child, social medicine, is increasingly occupied with the answers to these questions. We are in reaction against the preoccupation of clinical medicine during the last 50 years with "mechanistic (or as Halliday prefers to call it "mechanismic") ætiology" which seeks an answer to the question, "How has the machine broken down?"

I have suggested to Halliday that instead of distinguishing between biological and mechanistic ætiology we should retain two time-honoured words, using "ætiology" for biological cause and "pathogenesis" for mechanism.

The student will discover an absorbing interest in the causation of disease if he analyses for himself the known causes of all the disorders he encounters under "ætiology" and "pathogenesis." He will quickly realise that we are still ignorant of the prime cause of the many common diseases which are his daily study, such as thyrotoxicosis, diabetes, duodenal ulcer, appendicitis and child-rheumatism. He will see, too that in some disorders "pathogenesis" is all-important while in others "ætiology" holds the key.

It is the great value of Winnicott's protests that he compels us to consider therapy in the same fundamental way that Halliday's questions have driven us to re-examine ætiology. Winnicott when he protests against certain tendencies in therapeutics to-day does so on ætiological grounds. These therapies, he emphatically declares, are unbiological—and he gives two instances.

He suggests, in the first place, that chemotherapy is used indiscriminately and unnecessarily in the treatment of lung infections in children. This is no doubt true and it is an example of a tendency to use potent remedies irrationally and irrelevantly which has frequently been noted by distinguished physicians such as Ryle and Walshe.

Winnicott's reasons for his protest are interesting:—

1. That such therapy obscures the natural tendency to recover (*vis medicatrix naturæ*) and that the understanding of doctors and nurses is thereby impaired. There is some truth in this. A very experienced physician who formerly knew where he stood with pneumonia at any day of the disease and in any person, tells me that if he is faced to-day with a very sick patient at the end of the first week of his pneumonia (and after sulphonamide therapy) his prognosis is very much more inaccurate than formerly.

2. The next objection is more important but less valid. Winnicott deprecates the interference with the body's natural defences—in other words, he protests against the mechanistic interference with a biological process. Here he assumes two things. First that the clinician is capable of determining which child needs sulphonamides to prevent complications or to save its life. This depends on experience and judgment and there is no need to emphasise human

fallibility.

The second assumption is that the child whose pneumonia has been allowed to take its natural course is less likely to have another infection than if its pneumonia had been curtailed by chemotherapy. In other words, that the pre-eminent statesman, W. S. C., might not have had a second attack of pneumonia within a year if his first had not been so mechanistically treated.

There are many arguments against both these assumptions. The best immediate verdict is non-proven and the ultimate word will lie with the bacteriologists and immunologists.

3. The third objection is the psychological one that we are denying the sick person the profound and essential certainty that he holds within himself the defences against the dark forces of death. How important this may be analysts like Winnicott must tell us but there is still a preponderating number of disorders in which we have to leave the issue to the body's defences, often without hope of success; more than sufficient one would think to maintain the Ego's positive self-feeling.

Winnicott's objection to the treatment of mental disorder by convulsions is much more fundamental and important. He has shocked and irritated the hundreds of psychiatrists who to-day are using these methods, but the rest of us may take occasion to examine dispassionately the implications of his protest. He bases it squarely on ætiology. *Mental disorder is a disorder of emotional development* and therefore convulsion therapy is an irrational, noxious and mechanistic assault on the brain which while it promises immediate good can but engender ultimate evil.

Before we consider these notions in detail let us see how this principle of an ætiological approach to therapy works out in practice. A fully biological treatment is one which corrects a prime cause of disease. This is seldom possible in developed disorder but it covers all forms of prophylactic therapy from sewage-disposal to child-guidance.

It follows then that first-class medical and surgical therapy is not biological but mechanistic. In many instances such treatment, though admirably successful as in diabetes and thyrotoxicosis, leaves us quite ignorant of ætiology. We inhibit the growth of bacteria, remove the inflamed structures, substitute another mechanism for a failed body mechanism, obstruct chemically the excessive formation of a secretion—and thus restore our patients to admirable health. Although we do not deal with prime causes such treatment cannot be stigmatised as non-biological.

Non-biological therapy includes treatment that is symptomatic, unnecessary and irrelevant. This embraces Winnicott's complaint about the indiscriminate use of chemo-therapy, and Walshe's[2] protest against the use of convulsion therapy ("a widespread and too often wholly uncritical and inadequately documented employment of drastic procedures the perils and final fruits of which cannot yet be seen.")

Winnicott's objection to convulsion therapy is far different from this. Here, he says, is a mental disorder whose biological ætiology is well understood and which is susceptible of a biological therapy yet in defiance of these truths a violent electrical or surgical assault on the brain is conducted with results that may appear good to the over-enthusiastic observer but which must ultimately be harmful in the highest degree since the treatment is anti-biological.

Here all the psychiatrists, except the analysts, part company with him. They deny that the ætiology of mental disease lies wholly in a disorder of emotional development; they maintain that analytical therapy of a patient with advanced mental disorder is usually difficult and often impossible; they insist that convulsion therapy restores the depressed patient to a condition where it is possible to help him by more rational therapy. There are two comments that the outsider may be permitted to make. There is no reason to regard the brain as a sacred territory which should be immune from physical assault; both leucotomy and convulsion therapy represent a mechanistic intervention upon anatomical pathways and do not constitute an attack on the patient's personality. Moreover, it is generally recognised in medicine that where an unknown cause has produced a reaction which is irreversible, progressive and permanent—mechanistic intervention, which is crudely directed to the inhibition of the diseased process, is fully justified.

There is no need to be further detained by the details of this controversy; it has been valuable because it illustrates for us therapeutic criteria established by an ætiological approach.

Treatment then may be:

(*a*) *biological,* when it deals with prime causes, as in prophylaxis.

(*b*) *mechanistic,* in its inspiration and application but biological in its result, as in the best surgery.

(*c*) *non-biological,* seen at its least harmful in symptomatic treatment; generally employed and difficult to defend.

(*d*) *anti-biological,* controverting a known ætiology and noxious to the individual

as when, whether by error or design, emotional disorder is treated as a physical disease and vice-versa.

It appears, then, to me that the value of Winnicott's protests against convulsion therapy lies, not in the particular examples with which he has illustrated his thesis, but in his philosophic approach to disease.

In effect he warns the physicians and surgeons who are necessarily concerned with mechanistic therapies to consider carefully whether their treatment is biological in its direction.

No one will deny that this warning is necessary now and will be increasingly needed as the therapeutic promise of the future is harvested.

His second warning is directed to the psychiatrists. He tells them roundly that in pursuing their mechanistic ætiologies and therapies, they are mistaking their purpose and denying their faith. The extraordinary preoccupation of many psychiatrists with mechanistic explanations has been to the onlooker the dominating fact in psychiatry in the last twenty years. A septic focus, a low blood-sugar, a glandular dysfunction, a vitamin deficiency, a cerebral dysrhythmia, a conditioned reflex—no theory has seemed too fantastic for belief if only it was mechanistic.

It should be one of the jobs of the psychiatrist to provide medicine with a philosophy. Just as the pathologists canalise, direct and filter the stream of scientific knowledge, so it should be one of the functions of psychiatry to fashion and to interpret current medical thought in the light of philosophy.

Winnicott seems to have started on this uphill task. One may criticise his choice of a battleground but one cannot deny the validity of his principles. And, as Mr. Weller was heard to say, "Hurrah for the principle!"

1. Halliday, J. L., 1938, *Brit. Med J.*, 2, 11.
ibid 1943, *Brit. J. Med. Psych.*, 19, 367.
2. Walshe, F. M. R., 1944, *Brit. Med. J.*, 1, 173.

NOTES ON THE MEDICO-SOCIAL HISTORY OF SNUFF

By F. A. Austin and H. T. Eeles

In a world so obviously incapable of settling its differences except by methods of violence, it is with considerable trepidation that the authors introduce a subject so controversial as snuff taking. Yet even though we risk bringing the entire medical profession to blows, we can hardly remain silent concerning a substance which, during the ravages of the Great Plague, was confidently supposed to guarantee to the user immunity from the pestilence. Historians of the period note that those engaged in the large tobacco manufactories were never affected: and indeed the value of snuff as a protection against infection has been recognised in the past by a great number of physicians. Volume 2 of the London Medical Gazette records cures of Epidemic Scarlatina by the administration of powdered tobacco, after belladonna, prussic acid and other remedies had been tried in vain; and Albert Baker (Smoking and Smokers, 1845) declared that "with snuff and tobacco medical students are preserved from the ill effects of the rotting carcases by which they are daily surrounded." Sir Astley Cooper even claimed that snuff was the most powerful and successful agent in reducing hernia!

Snuff, when first introduced into Europe, was valued chiefly for its medicinal use as a sternutatory; and it was also, when mixed with charcoal and myrrh, widely employed as a dentifrice. In his "Triall of Tobacco," 1610, Dr. Edmund Gardiner set down an estimate of its value in the following words:

"Sternutatories, especially those which are made of tobacco, being drawn up into the nostrels, cause sneesing, consuming and spending away gross and slimie humors from the ventricles of the braine. These kind of remedies must needs doe good where the braine is repleat with many vapours, for those that have a lethargy or vertiginy, in all long griefs and aches of the head, in continuall senselessness or benumming of the braine, and for a hicket that proceedeth of repletion." Again, when used in longish pellets put up the nose: "... the subtile parts of the tobacco in inspiration are carried into the trachea and lungs, where they loosen the peccant humors adhering thereto, and promote expectoration." (*Ibid.*)

In view of this manifest esteem for snuff and tobacco as curative agents in the earlier period after their introduction, it is—to the layman at least—somewhat surprising that there developed subsequently the most violent, nay fanatical opposition to tobacco in every form. A veritable host of medical writers hastened to ascribe almost every disorder to which the

human frame is liable to the use of snuff, and all who indulge in it were threatened with a short and miserable life. Death by apoplexy and cancer of the nose were paraded freely as a bugbear for snuffers; and grave doctors were not found wanting to declare that the brains of snuff takers were found after death to be dried to a sort of dirty membrane, clogged with soot. A certain Dr. John Hill, in his "Cautions against Snuff," enforced his arguments by numerous "instances of persons who have perished miserably of diseases occasioned, or rendered incurable, byt its use." The French physician Hecquet, mindful, no doubt, of Papal Bulls which had anathematized those who took snuff in church, went so far as to angle for the support of Ecclesiastical Authority by suggesting that to take snuff during the period of fasting in Lent was as culpable as partaking of food—an appeal that met with no response from that august body of staunch snuffers. Why, the Church even had a brand of its own called Odeur de Rome; and every Pope, from the time of Clement XI onwards, had been an enthusiastic devotee of the box! Another partisan who needlessly spoilt his case was M. Fagon, physician to Louis XIV. He, being anxious to substantiate the unaccountable antipathy of his royal master to the use of snuff, is reported to have devoted his best energies to a public oration of a very violent kind directed against the practice. Unfortunately, however, the excited lecturer failed completely to convince his auditory; for in his most enthusiastic moments he so far forgot himself as to refresh his nose with a pinch.

The opposition to tobacco—these egregious blunders notwithstanding—was formidable indeed. Nevertheless, powerful medical support for the other side was forthcoming throughout the whole period of medical disfavour. The following story, related of the celebrated anatomist, Joshua Brookes, provides a good example of a successful "Snuff Party" counter attack. Brookes, we read, was so immoderately fond of snuff that he daily consumed two ounces. Once, when at a party, a lady who only knew him as "Mr. Brookes," but was ignorant of his profession, observed him frequently take snuff and thereupon volunteered to give him a little friendly advice on the danger consequent on indulging the habit. "I am informed, Sir," she said, "by a doctor of my acquaintance, that all persons who take snuff die of apoplexy."

"Pray how does he account for that?"

"Why he says that there are two little holes which go up from the nostrils to the brain and that when the brain becomes clogged with snuff the man dies of apoplexy."

The master of the house, who had overheard this conversation, now informed the lady that she was addressing Mr. Brookes, the anatomist, of Blenheim Street.

"Oh dear, Mr. Brookes!" exclaimed she, "you have been a terror to me from my childhood—and for me to be talking to you on such a subject!" "Never mind, ma'am," was the reply of the great dissector, "I am obliged to you for your kind intentions; but next time you see your medical friend, I beg that you will make my compliments to him, and request him to look more closely for the TWO LITTLE HOLES which you mentioned, for I must confess that they have escaped my notice."

Let us now see how the lay public reacted to this energetic controversy. Fortunately for its peace of mind it felt itself under no obligation to depend on medical sanction for its gratifications. On the contrary, the lead in snuff taking which was given by successive sovereigns never failed to receive an enthusiastic following. At the Restoration, Charles II had brought the habit over to England from the French Court, and further impetus was given to it in Court circles by the prevalence of Dutch tastes in the reign of William and Mary. Royal courts have ever been associated in history with highly artificial modes and manners, sometimes of an extravagance that bordered on the ludicrous. No better example of this aristocratic folly could surely be found than the positive rage for snuff which obtained amongst persons of rank and fashion in Queen Anne's day. The exoticism of the mixtures used and the affectations of the takers seem excessive to us to-day; but they combine to make this one of the most colourful periods in snuff history. Scarcely a man of rank in those times but carried about him the insidious dust: some in boxes of porcelain, agate, ebony and tortoiseshell—others, in the hollow head of the cane, an appendage as indispensible as the sword. Here is the sort of thing that went on:

". . . a gaudy crowd of odoriferous Tom Essences were walking backwards and forwards with their hats in their hands, not daring to convert them to their intended use lest it should put the foretops of their wigs into some disorder . . . their whole exercise being to charge and discharge their nostrils, and keep the curls of their periwigs in their proper order. The clashing of their snush-box lids, in opening and shutting, made more noise than their tongues."

Some of our readers may have had the good fortune to see for themselves a brilliant portrayal of the type by Mr. Leslie Banks as Mr. Tattle in "Love for Love" which, at the time

of writing, is still being played in London at the Haymarket Theatre. Congreve himself —it may be noted—was a snuff devotee. The sorts of mixtures used in this period were well suited to the dandified takers, with their grimacing and posturing. Such creatures were hardly men, and their snuffs were by no means of plain, manly tobacco, being compounded chiefly of denatured dusts tinctured with all manner of cloying perfumes: Orangery, Bergamotte, Jasamena, Palillio—the list of names is endless.

In the reigns of the first two Georges the habit spread from the aristocracy through all classes of respectable life: from the Royal ante-chambers to the then popular coffee houses, and (if we are to accept the authority of Mr. Tom Browne) even to certain other houses also. It is well known that the great men of the Restoration and 18th century literature were enthusiastic patrons of the coffee houses. At the same time they were, almost without exception, great takers of snuff. We have already alluded to Congreve; and of Dryden, who frequented Wills' coffee house, Ned Ward ("London Spy") relates: "A parcel of raw second-rate beaux and wits were conceited if they had but the honour to dip finger and thumb into Mr. Dryden's box." Addison, Steele, Swift, Pope, Johnson, Gibbon—all of them belonging to those brilliant coteries to be found in the 18th century coffee houses—who, relying on snuff to point the edge of their wit and aid their reflections would also, by the judicious management of their boxes, contrive to lend weight and authority to mere opinion, or to conceal the difficult birth of an epigram.

It must not be supposed that snuff taking was a practice confined to the gentlemen. Encouraged by Queen Charlotte the ladies were taking it in the drawing room. It is said that Her Majesty was remarkable for "a fine arm, and delicate, elegantly formed hand; but we acquit the Queen of all coquettish policy in this, for the more lovely the fingerpost, the more visible from contrast the unclassic outline of the place to which it pointed." She was known as the Royal Pug. The Queen herself favoured a snuff flavoured with musk, civet and essence of millefleurs known as Spanish snuff, to which she added a spoonful of green tea every morning; while even as late as 1840, in the remoter parts of Hampton Court Palace, the Dowagers of her Court were still nostalgically titillating their membranes with an extraordinary mixture of brown rappee and bitter almonds, finely powdered and flavoured with ambergris and attar-gul, which went by the name of Violet Strasbourg.

But we anticipate. Before writing of this Indian Summer of snuff taking we had done better to treat of the season of its greatest glory, when it came under the direct patronage of that Prince of snuff takers—the First Gentleman of Europe. All the genius for extravagance which characterised the Carlton House set was directed to make snuff taking, the delight of the jeweller and the chief business of the connoisseur. While Messrs. Rundell and Bridge were submitting such bills as £8,205 15s. 6d. for snuff boxes to visiting foreign Ministers at the Coronation of George IV, young bucks were storming the portals of Messrs. Fribourg & Treyer at the first news of each new consignment. The opinions of such men as Beau Brummel were eagerly canvassed by purveyors and quickly circulated about the more fashionable quarters of the town; for merely to take snuff, even with elegance, no longer sufficed in this age of connoisseurship, when a correct nose was as indispensable as a discriminating palate. How widespread was this exquisite nose hunger can be gauged from the knowledge that

"those excellent men, Messrs. Evans, of the Haymarket, became aware of the magnitude of the military movements in Portugal and Spain by the increased demand for snuff made by the Light Division. Nay, we have heard it affirmed that in more than one general action the enemies' ranks were thinned by shots delivered in CANISTERS bearing the well-known label of Fribourg and Trever."

In the sphere of High Politics snuff was as fashionable as in Court and military circles. Foxe and Pitt, on one side of the Channel, and on the other, Napoleon and his Grand Seigneur Foreign Minister, Talleyrand, were all of them notable snuff takers. Talleyrand, in fact insisted that the practice was essential to all great politicians, as it gave them time for thought in answering awkward questions while taking a pinch.

On the home front, meanwhile, the Prince Regent had set up a veritable arsenal of snuff at Windsor Castle. The Earl of Harrington followed suit by equipping his residence in Whitehall Gardens with a "jar chamber," wherein were rows of jars, together with proper materials of all sorts for the due admixture and management of the snuffs they contained; the whole thing being superintended by a well-informed curator. After his Lordship's death, when this famous collection was sold, the finest sorts realised fabulous prices. Less expensive, but perhaps even more extravagant, was the action of Sir Henry Cooke. So determined was he not to be deceived about the age of rare varieties by manufacturers who were not always

scrupulous, that he bricked up in a dry vault some jars of snuff carefully selected by himself, and thereupon let his house for seven years; and after the expiry of the lease and resumption of residence, had the vaults re-opened, to disclose the snuffs now old and matured to his own certain knowledge and satisfaction. In face of this competition from men of taste, however, the King remained perhaps the greatest of all takers.

"After dinner he had seldom before him less than ten or twelve different sorts in as many splendid boxes; but in the mornings he invariably took a mixture composed originally for Queen Charlotte by Sir Herbert Taylor. The afternoon snuffs approved by His Majesty were: Etrenne, Bureau, Martinique, Cologne, Old Paris, Havre, Bordeaux, Rouen; but the most favourite snuff was a Carotte manufactured expressly for him by Fribourg & Treyer."

This firm had the superintending of the King's collection at Windsor Castle, in collaboration with a succession of Masters of the Snuff: Mr. Dupasquier, and on his retiring, Mr. Troup, who was succeeded by Mr. Holmes, and then by Mr. Whiting in collaboration with Mr. Batchelor, in the arms of whom the King, unerring in his sense of the appropriate, drew his last breath.

The King is dead—but snuff taking has a few more years of life. Though still fashionable, the habit was rapidly becoming popular. At the top of the social scale the Royal Dukes sniffed their excellent mixtures; at the bottom of it the midwives and the washerwomen primed their noses with every ounce of cheap Scotch snuff that they could lay their hands on. By now Commerce, scenting a highly profitable market, had stepped in to provide that bountiful supply of an inferior-grade article which was demanded by a nose-hungry nation. To-day the cigarette is ubiquitous: 100 years ago the snuff box easily held its own with the penny twist smoked in a short clay, or the cheap cigar whiff. Mass addiction to snuff was a new phenomenon in England. In Scotland, however, "snush" or "sneshin" had always been preferred by the ordinary citizen to smoking as a mode of taking tobacco—a fact that was recognised in England by the sign of the snuff seller, which took the form of a life-size painted wooden effigy of a Highlander, complete with his horn snuff mull. Probably our readers have come across one of these relics outside some old-fashioned tobacconist's shop.

Alas, snuff taking was to receive its coup-de-grâce from another figure than that of the Highlander: that of the Woman upon the Pedestal. Where was there to be found a man who could possibly take snuff in the rarefied atmosphere of the Romantic Revival? Smokers, after all, were able to conceal their activities by furtive indulgence in the gun room; but joking references to the game book were no alibi in face of the indelible evidence of a snuffy cravat! So snuff taking became merely a habit of disreputable old gentlemen and of the labouring classes who lay outside the scope of Romanticism, until even there it was finally engulfed by the flood tide of Victorian Respectability. The very names by which snuff was known bear witness to this appalling decline. Whereas at Queen Charlotte's court such names as Macouba and Violet Strasbourg were on everyone's lips, and the Regency Bucks compared Prince's Mixture and King's Carotte with the mixtures of such connoisseurs as Sir William Anstruther and the dashing Colonel Norcott, in this last period Lundyfoot's High-Dried—one of the most famous o fall snuffs—was degraded in common speech into "Irish Blackguard." Only in the robuster North, amongst the Westmorland farms and in the cotton and wool districts of Lancashire and Yorkshire, did the old habit linger on. Even to-day one may purchase the homely snuffs of these parts: Samuel Gawith's Kendal Brown (named after the brown country cloth woven in Kendal), Illingworth's Golden Pheasant and Cock of the North, Top Mills and Wilson's Sheffield Pride. In addition to these varieties one can usually obtain the basic snuffs from which all others are derived, namely —Scotch, which consists of plain tobacco high-dried and pulverised; and brown or black Rappee (Fr. râpé), made by grinding fermented tobacco. All of them good plain snuffs for regular taking, they may be had for the asking at many tobacconists, and are highly recommended by the authors. For those who may require something more exquisite Messrs. Fribourg & Treyer—who, on the death of George IV, purchased many snuffs from the Royal collection—still manufacture a number of historic varieties, many of them dating back to the eighteenth century. These are vintage snuffs, the snuffs of ceremony. Indeed, we know of a college in each of our two oldest Universities where the snuff box is circulated with the port. Once again snuff lends weight to Donnish opinion, and provides a moment's respite for the marshalling of academic arguments. In short—here, at least, snuff has entered into its own again. Long may its use continue!

All contributions for the May issue should reach the JOURNAL *Office by April 9th.*

THE LIFE AND WORKS OF JOHN HUNTER

Wix Prize Essay for 1942

By JEFFERY SPRY LEVERTON

The road from Glasgow to the village of East Kilbride traverses some nine miles of the most delightful scenery to be seen in the south-west of Scotland. On a bend in the country lane leading from Kilbride to Blantyre stands the ancient farm-house of Long Calderwood, sheltered by its grove of trees. It gives the appearance of being something better than the average farm-house. Indeed it does not belie its appearance because for centuries one ancient family lived here, generation after generation being the laird of the surrounding district. High up on the wall to the left of the porch there is fixed a tablet. It reads:

"The Birthplace of two great Scotsmen,
William Hunter and John Hunter.
Born 23 May 1718 Born 13 Feb. 1728
Died 30 Mar. 1783 Died 16 Oct. 1793
Pre-eminent in Medicine and Surgery."

And here it was, in an upper room on the night of the thirteenth of February, 1728, that Agnes Hunter blessed her husband with their tenth and last child and their third surviving son. A few weeks later in the parish church the Minister baptised this latest arrival, John Hunter.

His father came of a line of ancient Hunters —the Hunters of Hunterston in Ayrshire. The Lanerk branch of the family had already been settled at Long Calderwood some two centuries prior to the birth of John Hunter. The family was a highly respectable one and they bore coat-armour of ancient granting. To all accounts, Mrs. Hunter was a charming and capable woman. She may have been too kind to John, but sudden widowhood and the absence of her two elder sons must be reckoned as some excuse. For John grew up with very little restraint on his doings. For some time he attended the local grammar school, where he was taught the rudiments of Latin. He must often have played truant, he certainly learned no Latin and was unable, one of his biographers has said, to read or write at the age of seventeen. John's favourite pastimes were all connected with the open air. He roamed the fields and woods of his native village, collected birds' eggs and helped his father's men on the farm. He related in later years, how he was for ever asking quastions about everyday things— "When I was a boy I wanted to know about the clouds and the grasses and why the leaves changed colour in the autumn; I watched the ants, bees, birds, tadpoles and cadis worms; I pestered people with questions about what nobody knew or cared anything about." For seven long years after his father's death, under the loving and doting care of his aged mother, John led a pleasant but lazy existence. Tiring of this and becoming eager to begin some definite work, he wrote to his brother William in London. William Hunter had been running a highly successful school of anatomy for some years. In his letter, John requested that he might visit him and perhaps be of some use in his school. He intimated that should William refuse, he had nothing left but to join the Army! His brother replied in due course, sending him a cordial invitation.

Early in August, John, accompanied by a Mr. Hamilton, friend of the family, sent out for London on horseback. They reached the capital about September the 15th, 1748, two weeks before the next October session began. With no exception, all Hunter's numerous biographers pass over his journey to London in so many words; much in the same way might a modern novelist, wishing to transfer his hero's sphere of activities to the south, make but passing mention of the night train from Glasgow to London. In 1748 a journey of some odd three hundred and fifty miles was no common occurrence—something a man might plan months ahead and use as his pet "after dinner" subject for the rest of his days. Except in the big towns, hostelries were few and far between, dirty and uncomfortable and apt to be highly suspicious and inhospitable to a lone and bespattered stranger and his horse. It was the hey-day of the highwayman. It is no surprise that Hunter, for this reason perhaps more than any other, welcomed the company of Hamilton. There was no regular coach service—their day was to come just one hundred years hence. Three alternative methods of reaching London confronted the two. One was to travel by private coach. This, the usual method of the aristocracy, involved enormous expense—far beyond the means of a young man like Hunter—and necessitated a retinue of servants. The other alternatives were either to ride on horseback or to walk, with the hope of meeting one of the long broad-wheeled freight wagons which lumbered ponderously and

slowly along the roads of the land—a method of transport equivalent in those days to our modern "hitch-hiking"! Smollet's "Roderick Random" gives some contemporary idea of the adventures that befell travellers by the latter, or indeed by any, method. The similarity between the journey of Random and Strap on the one hand and Hunter and Hamilton on the other, is too striking to be missed. Hunter and Random were both young men starting life, were both travelling from Scotland to London and were both destined for a medical career. Tobias Smollet settled in Chelsea in 1765. Every Sunday evening he "kept a kind of open house—a substantial meal and conversation to make them forget the drudgery of Grub Street." The "them" referred to were his numerous friends; amongst many others were Johnson, Goldsmith, Garrick and John Hunter. What a pleasant hypothesis it would be to suggest that the adventures of John Hunter on his travels, gave Smollet the idea of "Roderick Random." Alas! he published the book when he was quite a young man, in 1748, and the story is known to be largely autobiographical. However, the interest of this contemporary novel remains to all who follow year by year, the life of John Hunter.

William Hunter, his brother and senior by ten years, had by this time been settled in London for eight years. In 1746 he began to lecture on anatomy and by 1748 his anatomy school (at his house in the Great Piazza, Covent Garden) was a flourishing concern. There he was joined by his brother two weeks before the October session. John Hunter, for all his uncouth appearance, at once exhibited a natural flair for dissection. He was given an arm and told to dissect out and display the muscles. He performed his task so well that he was at once put to work on another arm, this one having the arteries injected. William Hunter was delighted at both results and at once proclaimed that there was a future for him. Very few medical students ever forget their first day in the dissecting room, their first feeling of astonishment and possible repugnance at the waxen figures on the tables, the first unsteady stroke of their scalpel as they began on the gluteal or scapular regions. John Hunter appears to have been at once at home in the atmosphere of the dissecting room. His enthusiasm was aroused and perhaps already in his first week he had ideas of becoming a surgeon rather than a country apothecary.

Besides learning anatomy and helping to run his brother's school, one of John Hunter's main tasks was to assist in the procuring of bodies for dissection. Even in this, the twentieth century, the supply of "subjects" is far from liberal. In 1748, the supply was almost minimal, a situation grossly out of proportion with the acknowledged use of importance and progress in medical education. In those days the fear of being "anatomised" was prevalent among all classes, the Church frowned on the student of anatomy and the Law beset him with obstacles at every end and turn. Until as late as 1752, an Act passed in the reign of Henry VIII was still law. This Act conferred upon the United Company of Barbers and Surgeons of London, the privilege of obtaining the bodies of four persons executed at Tyburn each year for felony, "to make incision of the same dead bodies, or otherwise to order the same after their said discretions at their pleasures, for their further and better knowledge, instruction, insight, learning and experience in the said science or faculty of surgery." Mr. Mortimer Woolf in his paper "Some Personalities of the Hunterian Epoch" relates how the removal of these four bodies to the dissecting room of the Barbers' Company was always beset by difficulty because of the hostility of the crowds to the so-called "public anatomies." The Company had frequently to prosecute the rioters and compensate the Beadle for injury received. He quotes the following two items from the Company's account book:

"1739. Item. Paid the Beadles their being beat and wounded at the late execution ... ... £4.4.0.

1740. Item. Paid for mending the windows broke upon bringing the last body from Tyburn ... ... 6.0."

It was the practice for the President of the Barbers' Company to receive, in full Court dress, the bodies from the hangman. "The contrast between the formal manner of the President and the surly suspicious bearing of the executioner . . . made the ghastly scene almost ludicrous." Provincial towns fared worse or little better. Anatomists were willing to pay large sums of money for bodies, the "resurrectionists" flourished, it was a time for strong iron railings round new graves.

Of necessity, John Hunter consorted with these ruffians. It is rather amusing how his Victorian biographers use this fact as the main excuse for the rather gay life he was known to lead during his first few years in London. He was a devotee of the taverns and places of amusement and one of his favourite pastimes was to "barrack" inferior theatrical produc-

tions from a cheap seat in the gallery! As one of his more modern American biographers picturesquely describes it—" he smilingly met temptation in a rollicking spirit—with a wine bottle in his hand and a doxy on his knee! " John was, after all, only doing in a more robust form, what the average medical student does when first released from school. However, if he did enjoy himself, he did not allow his occasional dissipation to interfere with his work. His brother can have been no easy task-master and there is no evidence to show that John once gave William cause to regret that he had employed him. Indeed, to the contrary, it is known that in 1749, after only one year's dissecting, John Hunter supervised the work of the other pupils.

John Hunter's medical education extended for some twelve years, 1748 to 1760. This was certainly twice and more like three times the usual period but it was to take another sixty or seventy years for any attempt to be made at the standardization of medical education. In the early eighteenth century, there was no one set way for a man to train to become a doctor, it was an age when quacks and unqualified practitioners flourished and a man was judged more by his deeds than by his diplomas. After six months of dissecting, William arranged for his brother to become a pupil, for the summer months, to William Cheselden at Chelsea Hospital. Here he learned the rudiments of surgery as it then was and he returned the following summer, after the winter course at his brother's school was over, to continue his studies. Were it not for Cheselden's illness in 1751 and his untimely death the next year at Bath, Hunter might never have been connected with St. Bartholomew's Hospital. William Hunter chose Percivall Pott as John's next tutor and he attended Pott at " Bart.'s " in the summer of 1751 " and in the winter was occasionally present at operations whenever anything extraordinary occurred." This statement emanates from Sir Everard Home, his brother-in-law and early biographer. However, the hospital records do not mention his studentship and Earle, who wrote a short life of Pott, states that he did not start to lecture until 1765. The weight of evidence though, does show that sometime in 1751 Hunter attended " Bart.'s " with Pott as his chief.

In Cheselden and Pott, Hunter had two of the finest surgical teachers of his day. Cheselden lived from 1688 to 1752 and made his name chiefly by introducing the so-called " lateral operation for the stone " which has seen little improvement up to modern times. For this operation he charged £500 and it was not unusual for him to perform it within sixty seconds. It is a passing reference of this sort which brings home the extent to which anæsthetics have aided the art of surgery. Pott became a surgeon to St. Bartholomew's in 1749. He was then aged thirty-five and he continued in his office for many years. He introduced improvements and rapidly gained a reputation second only to Cheselden's. The story of his being thrown from his horse in Cheapside is almost too well known for repetition. He sustained a compound fracture of the tibia and fibula and not what is now described as a " Pott's " fracture. In many books it is still stated that he did sustain a " Pott's " fracture. A few years later, Both Hunter and Pott were elected Masters of Anatomy at Surgeons' Hall. It is surprising to find Hunter, still a pupil, receiving this honour at the same time as his master. It speaks well of his industry and knowledge of anatomy.

During the eighteenth century, St. Bartholomew's Hospital was almost entirely rebuilt. The first new building was the entrance gate. The new hospital was begun in 1730 and finished in 1759 ; the funds for this immense task were raised by voluntary contributions and the names of the subscribers perpetuated for all time on the walls of the Great Hall. James Gibb was the architect and he gave all his drawings, time and attendance free of charge. John Hunter arrived at " Bart.'s " just when the main square was being completed. This, too, is much the same to-day as it was in his time. The south block was built anew in 1935 in the same architectural style. This, the addition of a fourth storey with dormer windows to the east and west block, the fountain and its surrounding trees, are the main alterations. Each block was originally connected to its neighbour by an arch and it seems a great pity that these arches have been removed, for they helped to maintain the continuity of the square.

In 1754 and again in 1756 he attended St. George's Hospital during the summer months as surgeon's pupil. His tutor is nowhere recorded but it was probably David Middleton, a friend of William Hunter, also of Scottish extraction and the then Surgeon-General to the Army.

A factor in John Hunter's upbringing, too often overlooked, is the influence of his brother. Without his brother's help, John Hunter might never have had Cheselden and Pott as tutors and might well have found difficulty in becoming a pupil at St. George's. In 1755 William sent him to Oxford. His idea was undoubtedly,

that a year or two at Oxford would polish him up and that a surgeon of any standing should have a knowledge of the classics. John Hunter appears to have gone there with no good grace. He entered as a gentleman-commoner at St. Mary's Hall and his name appeared in the matriculation list of the 5th June, 1755—" Johannes Hunter, ex aula santæ maræ virginis Arm. Fil."—so he wrote it himself, his first opportunity to show his contempt for good Latin. The late Sir D'Arcy Power believed that he left Oxford after less than two months' residence. John Hunter said afterwards, " They wanted to make an old woman of me or that I should stuff Latin at the University," and then, pressing his thumb nail significantly on the table, " but these schemes I cracked like so many vermin as they came before me." Jesse Foot took his short stay at Oxford as an excuse to jeer at him for his lack of the classics, to which Hunter retorted characteristically, " Jesse Foot accuses me of not knowing the dead languages but I could teach him on the dead body what he never knew in any language, living or dead."

For some nine months he returned to the Great Piazza, where he was by this time on terms of equality with his brother. Should William be unable to lecture, John took his place. In May, 1756, he became sole house-surgeon at St. George's Hospital. His duties were much the same as those of a house-officer in these times. He had less responsibility perhaps and, at St. George's, seems to have been denied the help of " dressers " to do the more arduous of the routine tasks. He left the post in October, after only five months; the usual period was twelve months or more. Jesse Foot jumps at this opportunity to insinuate that he was discharged for incompetence. The truth of the matter is more likely that he retired because of ill-health. Jesse Foot was a contemporary medical man of Hunter's and was also a house surgeon at St. George's in 1766 and 1767. The cause of his life-long animosity towards Hunter seems rather obscure. Peachey states that it originated in " his (Foot's) hope that he might succeed in dividing the town into two parties, over one of which he might assume the leadership and that on the appearance of Hunter's ' Treatise on the Venereal Disease ' in 1786, Foot followed with another work on the same subject in 1792, full of abuse of Hunter's doctrine and practice." It would seem that there must have been some further and deeper reason for his unfriendliness. It is stated that Foot received £400 from Hunter's enemies, to write a scurrilous biography; it appeared in 1794, seven months after Hunter's death.

After leaving St. George's, Hunter returned to the Great Piazza and continued to work at anatomy. He began research on the lymphatic system but had to lay this aside when, in 1759, he contracted pneumonia. By this time, he had worked solidly for eleven years, mostly at his brother's school. He had had few holidays; a visit to Long Calderwood in 1752 and his month or two at Oxford were the only breaks. There was a strong hereditary trait of tuberculosis. A long holiday with a change of air was indicated and on the 30th of October, 1760, he obtained a commission as surgeon on the Staff under General Hodgson. In the spring of the next year he left Spithead and set sail for Belleisle.

He was away on active service for just on two years, spending fifteen months at Belleisle and nine in Portugal. In a letter to his brother from Belleisle, dated September the 28th, 1761, he writes: " Thank God I have succeeded in everything I have attempted; but my practice in gun shot wounds has been in a great measure different from all others so that I have had the eyes of all the surgeons upon me, both on account of my suppos'd knowledge and method of treatment." He was beginning to show some of the asperity of temper and intolerance of his colleagues which so forcibly characterised him in later years. In another letter he describes his fellow surgeons as " a damned disagreeable set " and goes on " the two heads are as unfit for their employment as the Devil was to reign in Heaven."

After the Peace of Paris in 1763, he was demobilised and returned home on half pay. He was typically English, for he said many times after his return, " I have left long enough to be satisfied how preferable it is to all other countries." It appears that for some three years he lived in lodgings near Covent Garden and supplemented his income by a partnership with a Mr. Spence, who was, in his day, a first class dentist, practising in Soho Square. His experiences as an army surgeon and as a dentist laid the foundation of two of his most famous works, " A Natural History of the Human Teeth," published in 1771, and " A Treatise on the Blood, Inflammation and Gun-Shot Wounds," published in 1794, the year after his death.

In 1765, he purchased the lease of three pieces of land at Earl's Court, at that time a country district, and there he built for himself a residence. The next year, he launched forth once more and moved into a town house in

Golden Square. These two purchases taxed his capital to the limit and it is not surprising that in the autumn of the same year he mortgaged his country estate for £150. It is not at all difficult to understand his ideas behind these two purchases. He intended to start practising and teaching anatomy and surgery to students —hence the town house. He wanted at the same time a quite home in the country and more especially a place where he could carry on his researches into the anatomy of both humans and quadrupeds, without interference, for by this time he must surely have had ideas of starting a surgical and pathological collection. This collection in later years became a museum and was one of the main objects of his life. His ambition in general practice and even, maybe, in surgery, did not go so far. He probably realised his limitations in the latter art and regarded both purely as money making concerns—money invariably spent on further additions to his museum.

Peachey states that his house was situated in the north-west corner of Golden Square but a County Council commemorative plaque is affixed to the side of No. 30, in the south-west corner—unfortunately not to his original house but to a concrete building eight storeys high and the head office of a cinema company. In his day, Golden Square must have been a pleasant, quiet place to live, situated as it was, on the very outskirts of London, but now it presents a drab, dutsy and commercial appearance. It must be remembered that Hunter lived in a London which had as its virtual boundaries, in the north—Marylebone Road, in the south—the Thames, in the east—the City and in the west—Gloucester Road, or as it was then called —Hog's Lane. A print published in 1700 shows Piccadilly to be an open country lane. Knightsbridge was a village, separated from London by two miles of hedges and fields. St. George's Hospital was situated in open country; it was then known as "The Hospital at Hyde Park Corner," but even this only out of courtesy, for Hyde Park was common grazing ground for cattle. It is rather surprising that Hunter selected Golden Square for his town house. The medical profession clustered in the City and the "Harley Street" of those days was in the neighbourhood of Hatton Garden and Finsbury Square. Possibly one reason for his choice was that he wanted to be near his brother's school in Covent Garden.

Three years after his purchase of the ground at Earl's Court, the builders had finished a house to his liking and from then on he spent much of his time there, especially during the summer months when he slept there to escape the noise and dust of the city. It was an imposing two storied house, plain, square and of brick. From the front door there stretched a paddock dotted with trees and shrubs; in this paddock roamed the less fierce of the many varied animals he kept there. His study window faced across the paddock, eastwards, to the fields beyond. All round the house there stretched, moat-like, a covered cloister about six feet deep—very similar to the areas of London houses. In this area he kept caged his smaller animals and here he carried out a great deal of dissection. The entrance to the cloister was situated near the stable yard and at the other end it opened into a small room. Here he kept a copper boiler used for preparing skeletons. Buckland, who visited and described the house before its demolition, aptly refers to the cloister "through which Master John could wheel a tidy-sized cart or truck and drag into his den anything from a giant's body to a good-sized whale." For both a giant and a whale were dissected down there. The whale he obtained by equipping a special expedition. The giant he procured less prosaically but not less expensively.

Byrne or O'Brien was an Irishman, seven feet six inches in height—a physical property be turned to financial gain by exhibiting himself at shows and fairs. He died in 1783, but having heard that Hunter was keen to obtain his body and having a mortal horror of dissection, he left explicit instructions that his body was to be watched day and night until it could be put into a leaden coffin and sunk at sea. After his death the undertaker carried out his instructions but a servant of Hunter discovered the tavern to which the watchmen went when off duty. Hunter went there and offered the ring leader £50 if he would allow the body to be kidnapped. After a great deal of bargaining, during which the price rose to £500, it was agreed upon. He at once borrowed the money and the corpse was removed to a hackney cab in the dead of the night. Some distance away, in a quiet street, the body was transferred to Hunter's own carriage and driven quickly to Earl's Court. Fearing discovery, the usual method of preparing a skeleton was not resorted to but the body cut to pieces and hastily boiled to separate the flesh. This explains the unusual yellowness of the bones, which otherwise form a magnificent skeleton. There are several versions of this bizarre story differing slightly in detail but this one seems by far the likeliest. How typical of the collector's enthusiasm that Hunter was willing to pay a sum as great as

£500 for a mere bundle of bones; especially when it is remembered that in his day money was worth twice or three times its present value. O'Brien's enormous feet figure conspicuously in Reynold's portrait of John Hunter.

To be continued

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PREGNANCY IN PERNICIOUS ANÆMIA

By G. F. ROBERTS

Anæmias with pregnancy may arise in two ways; either the anæmia comes on as a result of the pregnancy, or an already established anæmia may be complicated by conception. In either case the anæmia may be microcytic or macrocytic in type. In addition there are rare hæmolytic and aplastic anæmias.

Of the anæmias which are seemingly induced by pregnancy, three main types are found: the physiological, the iron-deficient and the pernicious anæmia of pregnancy. The first is not a true anæmia and there is no deficiency in the oxygen-carrying power of the blood. It is mentioned as a reminder that the hæmoglobin estimation will be found lowered by about 15 per cent (26-36 weeks gravid), since at this time the plasma volume has undergone a relatively greater increase than have the red cells or hæmaglobin.[1] The iron deficiency anæmias may arise in several ways. The iron balance may only just be sufficient for the normal needs of a woman, in whom the demands of the growing fœtus are gained at maternal expense. Another common feature of pregnancy leading to deficient absorption, is hypochlorhydria during the last three months of gestation.[2 & 3] There may, of course, be secondary causes in contribution, such as malaria, nephritis or malignant disease.

The macrocytic anæmia induced by pregnancy is not certainly established as a separate entity. It is certainly rare and few cases have been investigated with thorough hæmatological technique.[4] The condition was first described by Osler in 1919,[5] though it had been remarked upon by Channing in 1842. It is said to differ from Addisonian anæmia in that achlorhydria is rare, and spontaneous recovery usually occurs after parturition. Cord changes are not seen. Davidson *et al* have investigated 16 cases of megalocytic anæmia occurring during pregnancy, some of which, however, were refractory to liver therapy.[6] In India and elsewhere the tropical nutritional anæmia has a high incidence in gravid women (1.7 per cent.), but it is unusual for the pregancy to proceed normally to term.[7]

The anæmias, on the other hand, which are complicated by pregnancy are two-fold. There may exist an iron-deficient anæmia in a woman subsequently becoming pregnant. The anæmia may be due to dietetic deficiency, or it may be an idiopathic hypochromic anæmia, or it may exist consequent upon some primary cause such as hæmorrhage, malignant disease or nephritis.

True pernicious anæmia, however complicated by pregnancy, is rare, because the age incidence is such that patients have either borne their children or their fertility is so lowered by the anæmia that they are incapable of bearing more. Wilkinson records one case and speaks of two more.[8]. There seems no reason, with normal liver therapy, why conception should not now occur in patients with Addisonian anæmia, and a successful delivery result. Two such cases are reported here, and I believe they are the only cases of this kind to be treated and delivered at this hospital since 1920.

Case No. 1. Mrs. G. P., aged 33 years.

Admitted May 14th, 1934, complaining of pallor, sore throat and tongue. On further questioning she admitted to vomiting, swelling of the ankles and, for the last 6 months, numbness and tingling in the feet and hands. She mentioned that though otherwise regular, her last three periods were diminished in flow.

No relevant past history. Her sister had anæmia, and her brother was in a mental home. She had one male child (17-7-22), when she was aged 22.

On examination she was pale and slightly icteric, the tongue was clean, moist and smooth and the teeth covered with tartar. There was no abnormality in the lungs or the cardio-vascular system. In the abdomen the spleen and both kidneys were felt. There was no lymphadenopathy. There was anæsthesia to light touch, pain and diminished vibration sense over a "stocking and glove" distribution, worse on the right side. The knee and ankle jerks were not elicited, but reflexes, sensation and power were otherwise normal.

The blood count at this time was: R.B.C. 1,620,000. W.B.C. 3,200. Hb 34 per cent.

C.I. 1.06.

Treatment was started with liver (Campolon 2 cc. intra-muscularly daily) and after 5 weeks the blood count was: R.B.C. 3,310,000. W.B.C. 9,800. Hb 78 per cent. C.I. 1.2.

Anisocytosis and Poikilocytosis were noted but no nucleated cells were seen.

Two years later the neurological clinic reported: improved, paræsthesiæ less, vibration sense largely returned. All jerks present. Position sense normal.

In 1935 the blood count showed: R.B.C. 5,360,000. Hb 82 per cent. 2 cc. Campolon weekly now being required.

In 1939 (now aged 38) she became pregnant and attended the ante-natal clinc on July 27th. Her blood count now was: R.B.C. 5,220,000. W.B.C. 8,800. Hb. 78 per cent. C.I. 0.7. Pregnancy and delivery were normal. The first stage of labour lasted 41 hours, the second and third a quarter of an hour each. A male child weighing 6 lbs. 3 ozs., was delivered.

The patient is now on 10 cc. Campolon (or present equivalent) monthly, and is well. The blood count of March, 1943: R.B.C. 5,620,000. Hb 104 per cent. The child is well.

It will be noted that the following investigations were not performed, in this case: Van den Bergh, Fractional test meal, sternal puncture.

Case No. 2. Mrs. C. P., aged 32 years.

Admitted December 4th, 1939, complaining of shortness of breath and pain in the back. The pain in the back and the history relating thereto subsequently proved to be due to a B.Coli infection of the urinary tract. During the last month she had been short of breath, tired and had noticed occasional swelling of the ankles. She suffered with palpitations and liked to sleep partly sitting up. No pain or sensory disturbances in the limbs. There was some excess of loss with the periods but no clots had been observed and regularity was preserved.

She had had rheumatic fever aged 12, which had affected her heart. All brothers and sisters were well. She had no children though no precautions against this possibility had been taken in eight years of her married life.

On examination she was pale; no abnormal feature was discovered in the mouth. The tongue was normal. The lungs appeared normal. In the heart there was clinical evidence of mitral stenosis. The heart was enlarged. There was no evidence of failure of the heart. The liver was not felt and the abdomen appeared normal. There was no neurological abnormality.

The blood count showed: R.B.C. 2,200,000. W.B.C. 4,400. Hb 43 per cent. C.I. 1. The van den Bergh showed a direct positive reaction, faintly after 30 minutes; the indirect reaction was 2mgms—4 units. Three grains of ferrous sulphate t.d.s. were administered for a fortnight when another blood count was done: R.B.C. 2,110,000. W.B.C. 4,200. Hb 53 per cent. C.I. 1.2. At this stage liver (Pernæmon forte 10 cc.) was started on alternate days. Improvement followed and the Hæmoglobin rose to 105 per cent. at the end of 1940.

Readmitted with a relapse in July '41. She complained this time that her fingers go dead. No neurological abnormality, however, was found and examination revealed no new feature beyond a palpable liver and spleen. A blood count was done: R.B.C. 1,160,000. Hb. 50 per cent. C.I. 1.5. Complete achlorhydria was found. Liver was started again and in 3 weeks the blood picture was: R.B.C. 3,560,000. Hb 75 per cent. C.I. 1.05.

In January, 1943 (now aged 36) she became pregnant and attended the ante-natal clinic. After a normal pregnancy she was admitted, slightly overdue, for induction of labour. Her hæmoglobin was 110 per cent. and there was no evidence of cardiac failure. After a Pitocin medical induction she was delivered, after 49 hours of labour, of a healthy male child weighing 5 lbs. 11 ozs. The mother was discharged with a Hæmoglobin of 100 per cent., and the child is well.

Case No. 1, though not fully investigated, displayed the features of Pernicious Anæmia and responded well to liver. It is interesting that she had one child when aged 22, that her symptoms began when aged 33, and that she conceived again some 4 years after her blood count had returned to normal. Judged by the dosage of liver extract required to keep her in good health, the pregnancy does not seem to have affected her condition adversely.

Case No. 2 was clearly proved to be Pernicious Anæmia, and the effect of iron treatment in raising the hæmoglobin without altering red cell count, suggests some coincident iron deficiency. There was no evidence of subacute combined degeneration of the cord. It is noticed that she had not conceived during the first 8 years of her married life and did not do so until 3 years after her blood picture was first restored to normal. Her labour was also complicated by mitral stenosis but there was no evidence of cardiac failure. As in the previous case, the dose of liver extract required to keep her in good health remained the same

after the pregnancy.

Permission to publish these cases has been granted by Dr. A. E. Gow, Dr. Geoffrey Evans and Dr. M. Donaldson, under whose care, at one time or another, they have been.

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THE REHABILITATION UNIT

By L. D. BAILEY, C.B., M.C.

There is no mystery attached to the Rehabilitation Unit.

It is, as its name suggests, a Department, or rather a series of departments, devoted especially to the restoration of function to the diseased or injured body or mind of the inmates of a Hospital.

As Dr. Harold Balme has remarked in an article published in the Monthly Bulletin of the Ministry of Health:—"One of the most interesting developments associated with the medical services of the present war has been the new emphasis placed upon rehabilitation as an integral part of a hospital's activities."

The word "new" is particularly significant as rehabilitation is "as old as the hills" and starts directly a patient enters a hospital and should end only with his discharge.

Unfortunately up to the present time the latter ideal had fallen sadly into the background and many a patient was discharged totally unfit to cope with his former occupation or to adjust himself to a new mode of life. It is to supply this deficiency that the establishment of Rehabilitation Units is essential in every up-to-date hospital.

The Unit at this Hospital consists of a team of workers all of whom hold Diplomas from the Chartered Society of Massage and Medical Gymnastics, or from the Association of Occupational Therapists or the Army School of Physical Training.

Each and all of these personnel have their specific duties to perform and the correlation of their activities as regards the individual patient is regulated by a Medical Officer, or Physician, in charge of the Unit.

To him are referred cases from every "Firm" in the hospital and it is his duty to prescribe, in collaboration and consultation with the Surgeon or Physician in charge of the case suitable treatment for the condition needing rehabilitation.

Suppose, now, we take a look at the various departments comprising the Unit.

As we come into the first room on the ground floor on a dark winter morning we shall probably find it brilliantly illuminated by numerous Radiant Heat Lamps of various shapes and sizes dispensing warmth and comfort to individuals arranged on plinths or sitting at tables, which gives the department an extraordinarily cheerful appearance, an atmosphere which is fostered throughout the Unit.

Interspersed between these lamps we shall find patients having muscle stimulation from Faradic Batteries directly applied to the quadriceps or to the plantar arches of the feet in baths.

Others may be having the Galvanic Current applied in the same way for the relief of pain or dispersal of œdema or again for the stimulation of muscles showing the Reaction of Degeneration.

Wax baths for stiff joints will be taking place in another part of the room and Massage and Movements, both light and vigorous, in yet another.

Passing on to the next room we find that this is given over to Sling Apparatus for the relaxation and movements, both active and passive, of weak and paralysed muscles, to footmarks on the floor for re-education in walking, to wall bars for the exercise of arms and legs with or without pulleys and weights, to sorbosponge mattresses for exercises in the lying position and an ankle rolling machine which imitates all the movements of the ankle in a truly faithful manner.

In one corner of this room will be found a wire cage housing a Short Wave Therapy generator for the treatment of deep-seated lesions, vascular disturbances and certain septic skin conditions. The cage is provided to prevent the Hertzian Waves produced by this piece of apparatus from escaping into the surrounding atmosphere and so interfering with

Radio-location and wireless messages to our own aeroplanes.

Infra-Red and Ultra-Violet lamps are used in a portable form both in these departments and in the wards.

Leading out of this department by means of a covered way is the Occupational Therapy Department.

This department is devoted to certain industrial employments designed to occupy both the mind and body of the afflicted patient.

The first room is given up to what are commonly called Arts and Crafts, such as basket making, weaving, wax and clay modelling, leather work, bicycle fretsawing, belt making and smocking, to mention a few.

The next room is a small recreation room where such mild games as skittles, quoits, tenni-quoit and piano playing can be indulged in with remarkable benefit to the patient.

Beyond this room is the woodwork and carpentry section, where all sorts of wooden models and useful pieces of furniture on a small scale can be made either at the bench or the lathe.

Sawing of logs can also be indulged in by the more robust.

Returning now to the Physiotherapy Department we will go upstairs.

Here we find a large room marked out in the centre into a Badminton Court, which is used exclusively as a Gymnasium.

In this gymnasium preliminary classes are taken by members of the physiotherapy staff (wrongly called Masseuses), a list of which is appended below. (Appendix I.)

It will be noted that these classes cater for all individuals and for every kind of disability.

Frequently, but not always, these classes are taken to the accompaniment of a gramophone, which greatly enhances the rhythmical co-ordination of muscle work.

In the next room we have apparatus erected for the final muscular efforts of the convalescent patient, namely, pulleys and weights for legs, ankles and backs.

Charts recording the maximum weight that can be lifted by the sound and injured limb are accurately kept from week to week and progression or deterioration can at once be detected.

A small room on this floor is devoted to individual breathing exercises until such time as the patient is able to join in the Chest Class.

Finally we come to the Recreation Hall where more advanced classes and games are undertaken by the Instructor of the Army Physical Training Corps.

Here the patient is hardened off before being sent to a Convalescent Depot or discharged to his home. (See Appendix 2.)

We have now got an idea of the actual departments comprising the Rehabilitation Unit, but a large percentage of the work is carried out in the wards long before the patient is able to come to the department.

All the treatments mentioned above can and are begun in the wards:—namely, electrical stimulation of muscles, galvanic treatments, heat in various forms, Ultra-violet light, occupational therapy, and exercises.

It is a refreshing sight on a fine summer morning to see F.F.I. doing their "daily dozen" in the open air, using whatever limbs or muscles are uninjured in order to keep these joints and structures in a moveable and supple condition, as well as improving their general metabolism. That is the advantage of being on the ground floor, you can be wheeled or dragged by willing hands into the open air.

Needless to say that whenever possible all exercises take place in the open, but other wards not so conveniently placed are not neglected and have their classes daily indoors.

The Sisters of these wards all testify to the extraordinary difference these make to the condition of the patient when first they are allowed up, which fact incidentally shortens their period of convalescence.

This, then, constitutes rehabilitation as far as it has gone at present, but there is much more to be done before the picture is complete.

Connected with the scheme should be a close liaison with the Psychiatric and Social Welfare Centres, as well as the possibility of vocational training in some other trade when the patient is unable to follow his former occupation.

It is hardly necessary to say that Bart.'s is fully alive to all these further improvements and it will be interesting to see the final Unit in a few years' time or as the papers say with regard to the end of the war, "perhaps sooner than some people expect."

* * * * *

The post of Editor has been filled by Mr. Gordon Ostlere. The Assistant Editorship remains temporarily vacant.

At HILL END

This morning we were thrown our copy of the current issue of the JOURNAL. Nonchalently we began to turn the pages. We were duly aghast at the prospect of a professional uniform to hide the defects in our knowledge and personality, but then even an Editor could not hope to remain untainted in a world which is thinking more and more in terms of uniformed dress, uniformed drills, uniformed ideas and prefabricated houses. To us the idea is just another retrograde step tending to the mass production of text-thumbing scientists and the elimination of the creative artist. The prospect of Bart.'s on a copperbelt would have compelled our attention even without the photographs to fascinate our morbid "Daily Mirror" minds, and by the time we had finished the article we found we had missed a lecture. With a sigh of relief we began to visualise a progression of clove hitches in umbilical cords. Our happy reverie terminated in a start of dismay when we saw that our news-letter should have reached the Editor yesterday, and now we are frantically trying to recall the events of the past month before the evening post.

The annual Hill End dance was held on Leap Year Day in an atmosphere which combined the smoothness of Victor Sylvester with the joyous abandon of a Harlem free-for-all and an occasional incongruous burst of bonny Scotland. The attendance was so good that at times one could only clasp one's partner and breathe in and out to the crushing rhythm of the Beds and Herts Band. It took us three days to recover and when we finally got up we found we had missed our orange ration, so we sent our chief a note and went to bed again.

Our alarm clock woke us ten days later in time to hear Professor Ross read his paper, "The Doctor and the Patient," to a record audience. We were treated to an excellent exposition on the relationship of the doctor to the body, the mind and the soul of his patient, and the possibilities of co-operation between the doctor and the parson. The paucity of the ensuing discussion was no doubt due to the very size of the audience, which overawed all but the boldest.

Once more the seasonal pilgrimage to the tuberculosis sanatorium has filled the road to South Mimms with hitch-hiking hooligans. Once again most of the brethren fell by the wayside to have tea, while the faithful Christian trudged on to the golden city, where he signed them all up. But the walk back from the "Spot" in the soft light of a spring evening has proved too much for us, so until next month . . . well, of course, we'll go to bed.

P. J. B.

FRIERN NEWS

Many a curious observer, looking through the gates of Friern, must often have wondered about its internal activities. Few of them could have failed to realise the significance of the long black box which occasionally is seen being trundled on a trolley towards the building near the gate. To most people, however, "Class I Hospital" conveys very little. One lady, obviously unacquainted with the war-time status of the institution, pointing excitedly at a straggling crowd of men, was heard to remark to her companion, "Look! There are some of the inmates out for a walk." Medical students have been called by many different names, but that was probably the first time they have been so described. The lecturer, due to give a grind to these gentlemen, was not, however, included in the statement, for he, together with some of his colleagues, is able to traverse the distance from the wards to the B.V. in his car.

It has lately been noticed that at lectures and rounds the best answers often appear to come from the rear of the class. There is, however, one very notable exception. Many back-benchers are now considering some subtle means of preventing the lecturer from walking up and down between the rows, the concealing of "A Pocket Medicine" inside a large note-book being too insecure.

A Leap Year Dance was held at Friern on February 29th. In spite of an interruption by air activity it proved to be quite an enjoyable evening. The conspicuous lack of students at these affairs is no doubt due to the difficulties they would encounter in getting home afterwards. Excellent music, on this occasion, was provided by the Blue Lagoons Orchestra, and refreshments were provided free of charge. Few ladies took advantage of the extraordinary circumstances, and, as far as we know, there

was no successful suit. Perhaps their partners were "either too young or too old."

Friern has bidden farewell to Mr. Brian Brooke, who has left for the army. Throughout the last two years he has proved himself not only a very capable surgeon and teacher, but has been extremely popular for his participation in many social activities. His career at Friern was crowned by his recent acquisition of the M.Chir. degree. We wish him every success.

SPORTS NEWS

HOCKEY

v. St. Mary's Hospital, Saturday, February 26th. Lost 3—1.

This game was the semi-final of the inter-hospital competition; it was played at Honor Oak Park, and we were most unfortunate in losing it. Mary's scored a goal in the first ten minutes as a result of some muddling on the part of our defence; this was a rude shock, as they brought the ball down practically from their own goal-line. After this we returned to the attack and came very near to scoring on several occasions—in fact, so intent upon scoring a goal was Harrison that he forget to get his head out of the way of one of the Mary's defenders! There was no further score before half-time, and we started the second half with a rush; our forwards througnout the rest of the game seemed to do everything with the ball but put it into the Mary's net—they hit it into the air-raid shelters close by and also through the rugger posts on the next field, but the Mary's goal, no! Eventually with ten minutes to go Giles got fed up with fooling about and hit the ball past their goalkeeper in malignant fashion. We thought then that we had a chance of pulling it off, but Mary's evidently had decided otherwise, because, totally against the run of the play, they scored twice more. A pity, because we really did deserve to win.

v. Broxbourne, Saturday, February 19th. Lost 4—1.

Although this fixture was only arranged late on Friday evening after our original match with the Middlesex Hospital had been cancelled, we managed to muster ten men and a supporter for the game. Our opponents were short of a goalkeeper, but in view of the weather conditions this was understandable. The umpiring was left to the honesty of the individual performers, and the timing taken from the nearby church clock, which happened to be within the visual range of at least two members of each side.

As is the rule at Broxbourne, the ground was in excellent condition, and the play just before and after half-time was certainly some of the best we have had this season. In the first half, our opponents scored a quick goal, to which Harrison later replied. From this moment till Broxbourne scored again in the second half the ball rattled from one end to the other, both sides making very little use of good opportunities for scoring.

Rather against the run of play, our opponents scored twice more, although most of the play was centred round their "25" with our forwards excelling in the art of dribbling the ball over the goal-line at any point other than between the two posts.

After the game, in the warmth and comfort of the country club, we were given the opportunity of redeeming ourselves a little by winning the darts competition.

Team.—Ellis; Buckley, Durham; Giles, Fison, Roberts, J. M.; Leech, Andrew, Harrison, Brazier.

SOCCER

v. The Preclinicals, Saturday, March 4th. Lost 10—0.

It almost seems as though an apology is needed, a scholarship paper was postponed and Cambridge is not exactly around the corner; surely that is an honour for any team, but we failed completely to make them doubt that they would win after they scored the opening goal in the first few minutes.

For us it was a good and enjoyable game, we were hard worked, and, as usual, never on the ball first, although our effort was considerably greater than ever before. The Preclinicals invariably got there first and never once missed an opportunity of putting it past Dallas Ross whenever he gave them the slightest opening. But for their extraordinary aptitude in shooting when it seemed quite impossible to us, and provided that we had been able to kick the ball in the right direction when there was nothing between the ball and the net—well, maybe the score would have had just that slight alteration.

Whatever may be said about the game it is pleasingly evident that at some future date Bart.'s will play a very strong soccer team and may even rival the efforts of our forefathers in the nineties.

v. Forest Hill School, Saturday, February 19th. Won 2—1.

This was in no wise a remarkable game. For the most part our performance was without distinction. Carteledge alone demonstrated to good effect his accustomed verve and pertinacity. Thanks mainly to his efforts—a poor reflection upon the youth and vigour boasted by the rest of us—we managed, after an anxious half-hour in which the scores stood level, to score a deciding goal in the last half-minute. Many of us had plausible enough excuses to offer. But perhaps had Hunt, with the details of whose legendary odyssey that afternoon through Epping Forest in search of the ground we have since become sceptically familiar, been with us to raise our strength to eleven men, we might have fared better.

Team.—P. Dallas; Ross; P. H. Walker; J. D. Robinson, P. Jordan, A. Murley; L. Carteledge, I. Peebles, J. Adams, D. Van Zwarenberg.

SOCCER AT CAMBRIDGE

BART.'S WIN CAMBRIDGE UNIVERSITY LEAGUE

Our remaining league fixture against St. Catherine's was played on February 5th on a neutral ground. The result was 2—0 in our favour. The goals were scored in the first half by Abrahams and McCluskey. From then onwards play was continually in our favour, only sound goal-keeping preventing us from adding more goals. St. Catherine's had several breakthroughs during the second half, but failed to finish. Thus, Bart.'s are league champions—this being the first time that a college of another University have held this honour.

Team.—Teck-kam; Pine, Davy; Blackman, Amos, McCluskey; Abraham, Goodrich, Thomas, Mangan, Burns.

On February 9th, we played Jesus and Trinity Hall in the second round of the "Cuppers," having beaten Selwyn College 6—2 in the first round. All hopes of winning the double vanished, however, when we were soundly defeated 6—0. In addition, three friendly matches have been played against R.A.F. XI.'s, the results of which were close and keenly contested.

Date.	Opponents.	Results. For	Agst.
Oct. 20—v.	Queen's (A.)	13	1
Oct. 23—v.	Pembroke, King's, Sydney (A.)	11	3
Oct. 27—v.	Jesus and Trinity (A.) ...	5	4
Oct. 30—v.	Caius (A.)	16	2
Nov. 6—v.	Q.M.C. (Ho.)	4	0
Nov. 10—v.	Trinity and Corpus (A.) ...	5	3
Nov. 13—v.	Clare and Magdalene (A.)	4	1
Nov. 17—v.	Downing (H.)	9	1
Nov. 20—v.	Emmanuel (A.)	7	0
Nov. 24—v.	Selwyn (A.)	10	1
Nov. 27—v.	John's (H.)	4	2
Dec. 1—v.	Christ's (H.)	3	3
Feb. 5—v.	Catherine's (neutral) ...	2	0

FINAL RESULT.

Played.	Won.	Lost.	Drawn.	For.	Against.	Points.
13	12	0	1	93	21	25

The principal goal scorers were: Thomas (29), McCluskey (27), Burns (14), while the following have played for us in the league championship:—Teck-kam, Amos, Blackman, Mangan, McCluskey, Thomas (13), Burns, Pine, Whiteley (11), Xavier (7), Goodrich, Cookson (5), Pilling, Weston (3), Paul, Gai (2), Whitehead-Evans, Barker, Davy, Abrahams, Luke (1).

RECENT PAPERS BY ST. BARTHOLOMEW'S MEN

EVANS, FRANKIS T., M.B. "Anæsthesia in Gall Bladder Surgery." *Post-Grad. Med. J.*, Feb., 1944, p. 55.

GARROD, LAURENCE P., M.D., F.R.C.P. "Penicillin: Its Properties and Powers as a Therapeutic Agent." *Brit. Med. Bull.*, Vol. 2 (1944), No. 1, p. 2.

——— "Some Observations on Hospital Dust." *Brit. Med. J.*, Feb. 9th, 1944, p. 245.

GRIFFITHS, H. E., M.S., F.R.C.S. "The Surgery of Gall Bladder Disease. *Post-Grad. Med. J.*, Feb., 1944, p. 47.

HOWELL, C. M. HINDS, M.D., F.R.C.P. "The Interpretation of Physical Signs: In Diseases of the Nervous System." *Practitioner*, March, 1944, p. 178.

JANES, L. R., M.A., M.B., B.Chir. "The Clinical Pathology of Gall Bladder Disease." *Post-Grad. J.*, Feb., 1944, p. 33.

MACFARLANE, R. G., M.D. (and O'Brien, J.R.P., etc.). "*Re* Haldane Hœmoglobinometer." *Brit. Med. J.*, Feb. 19th, 1944, p. 248.

MAXWELL, J. PRESTON, M.D., F.R.C.S., F.R.C.O.G. "Pregnancy Associated with Congenital Cystic Disease of the Lung." *J. Obst. & Gynæc. Brit. Emp.*, Feb., 1944, p. 42.

RACE, R. R., M.R.C.S., L.R.C.P. (and Taylor, G. L., H.D., Ph.D.). "Hœmolytic Disease of the Newborn." *Brit. Med. J.*, Feb. 26th, 1944, p. 288.

RECORDON, E. G., M.D. (and Le Marquand, H. S., M.D.). "Aseptic Cavernous Sinus Thrombosis. *Lancet*, Feb. 19th, 1944, p. 247.

SHOOTER, R. A., M.B., B.Ch. (and Waterworth, Pamela M.). "A Note on the Transmissibility of Hœmolytic Streptococcal Infection by Flies." *Brit. Med. J.*, Feb. 19th, 1944, p. 247.

SHORTER, ALAN, M.B., F.R.C.S. "Early Rehabilitation in Abdominal Surgery." *Lancet*, Feb. 19th, 1944, p. 243.

CORRESPONDENCE

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

May I contend the assertion in the Editorial of the March number of the Journal that "The advantages of the return of the automatically frock-coated and wing-collared doctor would be material . . ."? Surely the abandonment of the traditional garb of the doctor has been brought about by the fact that the public is no longer impressed! It has largely outlived the therapeutics of the African witch-doctor, and hopes for something more in keeping with the times. In this age of scepticism and distrust of tradition the adoption of an obsolete form of dress would provoke little but ridicule from the public.

So I fear that we must lament in our hearts that we cannot see our friends pursuing their noble calling in a frock-coat and top-hat, as do the chimney-sweep of Nuremburg and other cities abroad.

For obvious reasons, I remain, Dear Sir,

Yours sincerely,

SPORTS-COAT-AND-SLACKS.

The Abernethian Room,
March 8th, 1944.

To the Editor, St. Bartholomew's Hospital Journal

Sir,

Under the heading of "Combined Operations" in your March issue Alan Tois describes a conversation in the vicarage with "Young Jones" (clearly a pseudonym), who "had finished a surgical chief assistantship and disappeared into the R.A.F. six months ago." I think I am right in saying that this description fits only one person, myself.

Now, sir, cheerful I may be, but pink, no. On the contrary, my acquaintances have often remarked upon a sub-icteric tinge in my appearance which, were I still at Bart.'s, would probably make Dr. Scowen wish to perform some loathsome new test for liver function on me. But let that pass. The suggestion to which I trace the very strongest exception is not (as you might well imagine) that I fail to find the appendix, but that I approve of R.A.F. slang. No words can convey my feeling on this matter. Indeed, only two days ago I was arguing this point with an Air Vice-Marshal, who had most certainly better be nameless, but who I am ashamed to say strongly approves of this retrograde and schoolboy custom.

In view of the restrictions encompassing serving officers writing to the Press I will subscribe myself by my accustomed nom-de-plume and remain, Sir,

Yours faithfully,

HOGARTH.

March 10th, 1944.

BART'S MEN IN ENEMY HANDS

We have recently received the address of an ex-Bart.'s man, who qualified some years ago, and is now a prisoner of war in Germany. It is:—

Captain A. R. Dearlove,
South African Prisoner of War No. 1152,
Camp Oflag VII B,
Germany.

We should be glad to publish the names and addresses of any other Bart.'s men in enemy hands, as their contemporaries may wish to write to them to alleviate the tedium of their enforced rest.

EXAMINATION RESULTS

UNIVERSITY OF LONDON

FEBRUARY, 1944

Pass

Akehurst, A. C.
Hurt, R. W. L.
Siegler, J.
Bunjé, H. W.
Jackson, P. E.
Turton, E. C.
Durham, P. D. A.
Linsell, W. D.
Eley, A. J.
Martin, C. G.

SUPPLEMENTARY PASS LIST

Part I.

Bunting, C. F.
Lewis, B.
Rey, J. H.
Wells, P. W.
Grossmark, G. J.
Meyrick, J.
Singh, S.
Wood, P. A. T.
Carson, M. B.
Marcroft, J. T.
Simpson, R. A. H.
Wimborne, D.
Jones, V. H.
Pracy, R.
Todd, I. P.

Part II.

Burkitt, E. A.
Herington, G.
Johnson, P. F.
Randall, K. J.

Part III.

Adams, J. C. L.
Sills, O. A.
Hicks, G. E.
Smith, W. H. R.
Rey, J. H.
Whitehead, B. L.
Shirazi, A. M. R.